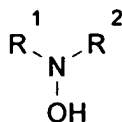


CLAIMS

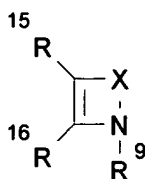
- SW A7
- 5
1. A multicomponent system for use with detergents, containing
    - a) optionally, at least one oxidation catalyst;
    - b) at least one suitable oxidizing agent;
    - c) at least one mediator, selected from the group comprising hydroxylamines, hydroxylamine derivatives, hydroxamic acids, hydroxamic acid derivatives, and the aliphatic, cycloaliphatic, heterocyclic or aromatic compounds that contain at least one N-hydroxy, oxime, N-oxy, or N,N'-dioxy function;
    - d) at least one comediator, selected from the group comprising aryl-substituted alcohols, carbonyl compounds, aliphatic ethers, phenol ethers, and/or olefins (alkenes); and
    - e) optionally, a small quantity of at least one free amine of a respective mediator used.
  2. The multicomponent system of claim 1, characterized in that in addition to the these substances, it contains phenolic and/or nonphenolic compounds with one or more benzene nuclei.
  3. The multicomponent system of claim 1 or 2, characterized in that as the oxidation catalyst, it contains one or more oxidoreductases of classes 1.1.1 - 1.97.
  4. The multicomponent system of claim 3, characterized in that it contains one or more oxidoreductases which use oxygen, peroxides or quinones as electron acceptors.
  5. The multicomponent system of claim 3, characterized in that as the oxidoreductase, it contains laccase (1.10.3.2.).
  6. The multicomponent system of claim 1 or 2, characterized in that component c), as the NO-, NOH- or H-NR- OH-containing aliphatic, cycloaliphatic, heterocyclic or aromatic compounds, it contains N-hydroxy, oxime, N-oxy and N,N'-dioxy compounds in single- or multicomponent systems.

7. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains hydroxylamines of the general formula

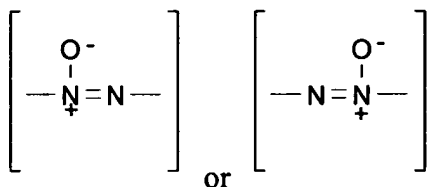


5 in which the substituents R<sup>1</sup> and R<sup>2</sup>, which may be the same or different, independently of one other represent one of the following groups: hydrogen, C<sub>1</sub>-C<sub>12</sub> alkyl, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, aryl, of which C<sub>1</sub>-C<sub>12</sub> alkyl, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, aryl may be unsubstituted or may also be substituted once or multiple times with the radical R<sup>3</sup>, in which the radical R<sup>3</sup> may represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof, amino, nitro, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyloxy, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, sulfono, their esters and salts, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters; in which the amino, carbamoyl and sulfamoyl groups of the radical R<sup>3</sup> may be unsubstituted or may be substituted once or two times with hydroxyl, C<sub>1</sub>-C<sub>3</sub> alkyl, C<sub>1</sub>-C<sub>3</sub> alkoxy; in which the radicals R<sup>1</sup> and R<sup>2</sup> can jointly form a group-B-, and -B- in that case represents one of the following groups: (-CHR<sup>4</sup>-)<sub>n</sub>, (CR<sup>4</sup>=CH-)<sub>m</sub>; and in which R<sup>4</sup> is a substituent that is defined line R<sup>3</sup>, and n represents an integer from 1 to 6 and m represents an integer from 1 to 3.

8. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains substances of the general formula



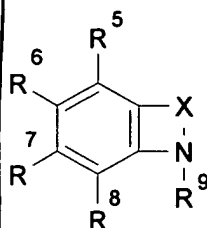
5 in which X stands for one of the following groups: (-N=N-), (-N=CR<sup>10</sup>-)<sub>p</sub>, (-CR<sup>10</sup>=N-)<sub>p</sub>, (-CR<sup>11</sup>=CR<sup>12</sup>-)<sub>p</sub>



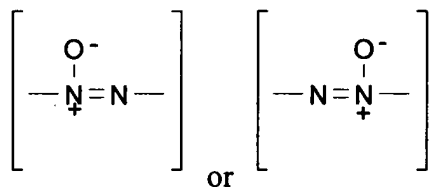
and p is equal to 1 or 2, in which the radicals R<sup>9</sup> to R<sup>12</sup>, R<sup>15</sup> and R<sup>16</sup> may be the same or different and independently of one another can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyloxy, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, sulfono esters and salts thereof, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters; and in which the amino, carbamoyl and sulfamoyl groups of the radicals R<sup>9</sup> to R<sup>12</sup>, R<sup>15</sup> and R<sup>16</sup> may be unsubstituted or may also be substituted once or two times with hydroxyl, C<sub>1</sub>-C<sub>3</sub> alkyl, C<sub>1</sub>-C<sub>3</sub> alkoxy; and in which the radicals R<sup>15</sup> and R<sup>16</sup> can form a common group -G-, and -G- represents one of the following groups: (-CR<sup>5</sup>=CR<sup>6</sup>-CR<sup>7</sup>=CR<sup>8</sup>-) or (-CR<sup>8</sup>=CR<sup>7</sup>-CR<sup>6</sup>=CR<sup>5</sup>-), in which the radicals R<sup>5</sup> to R<sup>8</sup> may be the same or different and independently of one another can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyloxy, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, sulfono, esters and salts thereof, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters, and in which the amino, carbamoyl and sulfamoyl groups of the radicals R<sup>5</sup> to R<sup>8</sup> may be unsubstituted or may also be substituted once or two times with hydroxyl, C<sub>1</sub>-C<sub>3</sub> alkyl, C<sub>1</sub>-C<sub>3</sub> alkoxy; and in which the C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyloxy, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, aryl groups of radicals R<sup>5</sup> to R<sup>8</sup> may be unsubstituted or may also be substituted one or two times with the radical R<sup>18</sup>; in which the radical R<sup>18</sup> can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyloxy, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, aryl, and their esters and salts, and

the carbamoyl, sulfamoyl, amino groups of the radical  $R^{18}$  may be unsubstituted or may also be substituted once or two times with the radical  $R^{19}$  and the radical  $R^{19}$  may represent one of the following groups: hydrogen; hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro,  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, aryl.

9. The multicomponent system of claim 6, characterized in that the component c), as  $NO$ -,  $NOH$ - or  $H-NR$ -  $OH$ -containing compounds, contains compounds of the general formula III,



5 in which X stands for one of the following groups:  $(-N=N-)$ ,  $(-N=CR^{10}-)_p$ ,  $(-CR^{10}=N-)_p$ ,  $(-CR^{11}=CR^{12}-)_p$

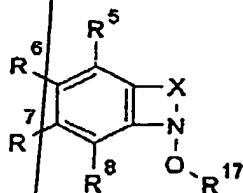


and p is equal to 1 or 2, in which the radicals  $R^1$  to  $R^{12}$  are same or different and independently of one another can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro,  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, aryl, sulfono, esters and salts thereof, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters; and in which their amino, carbamoyl and sulfamoyl groups may be unsubstituted or may also be substituted once or two times with hydroxy,  $C_1$ - $C_3$  alkyl,  $C_1$ - $C_3$  alkoxy; and in which the  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, aryl, aryl  $C_1$ - $C_6$  alkyl groups of radicals  $R^5$  to  $R^{12}$  may be unsubstituted or substituted once or two times with the

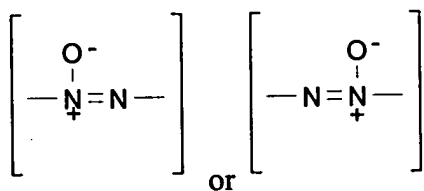
radical  $R^{13}$ , and the radical  $R^{13}$  can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro,  $C_1-C_{12}$  alkyl,  $C_1-C_6$  alkyloxy, carbonyl  $C_1-C_6$  amino, nitro,  $C_1-C_{12}$  alkyl,  $C_1-C_6$  alkyloxy, carbonyl  $C_1-C_6$  alkyl, phenyl, aryl, sulfono, sulfeno, sulfino, and their esters and salts. The carbamoyl, sulfamoyl, amino groups of the radical  $R^{13}$  may be unsubstituted or may also be substituted once or two times with the radical  $R^{14}$ .

The radical  $R^{14}$  may represent one of the following groups: hydrogen; hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro,  $C_1-C_{12}$  alkyl,  $C_1-C_6$  alkyloxy, carbonyl  $C_1-C_6$  alkyl, phenyl or aryl.

10. The multicomponent system of claim 6, characterized in that the component c), as NO-, NOH- or H-NR- OH-containing compounds, contains compounds of the general formula IV,

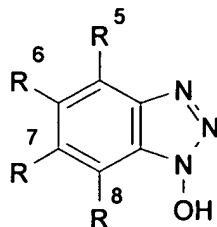


in which X stands for one of the following groups:  $(-N=N-)$ ,  $(-N=CR^{10}-)_p$ ,  $(-CR^{10}=N-)_p$ ,  $(-CR^{11}=CR^{12}-)_p$



and p is equal to 1 or 2, in which for the radicals  $R^5$  to  $R^8$  and  $R^{10}$  to  $R^{12}$  the same as in claim 9 applies, and  $R^{17}$  can be hydrogen,  $C_1-C_{10}$  alkyl,  $C_1-C_{10}$  carbonyl, of which  $C_1-C_{10}$  alkyl and  $C_1-C_{10}$  carbonyl can be unsubstituted or mono- or polysubstituted with a radical  $R^{18}$ , which is defined like  $R^3$ .

11. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains 1-hydroxybenzotriazol and the tautomeric benzotriazole-1-oxide, as well as their esters and salts, of the formula



5 in which the radicals  $R^1$  to  $R^8$  may be the same or different and independently of one another can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and salts and esters thereof; amino, nitro,  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, sulfono esters and salts thereof, sulfamoyl, carbamoyl, phospho, phosphono, phosphonooxy and their salts and esters; and in which the amino, carbamoyl and sulfamoyl groups of the radicals  $R^5$  to  $R^8$  may be unsubstituted or may also be substituted once or two times with hydroxyl,  $C_1$ - $C_3$  alkyl,  $C_1$ - $C_3$  alkoxy; and in which the  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, aryl groups of radicals  $R^5$  to  $R^8$  may be unsubstituted or may also be substituted or mono- or polysubstituted with the radical  $R^{18}$ , in which the radical  $R^{18}$  can represent one of the following groups: hydrogen, halogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro,  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, aryl, sulfono, sulfeno, sulfino, and their esters and salts, and the carbamoyl, sulfamoyl, amino groups of the radical  $R^{18}$  may be unsubstituted or may also be substituted once or two times with the radical  $R^{19}$ , and the radical  $R^{19}$  may represent one of the following groups: hydrogen, hydroxyl, formyl, carboxyl and their salts and esters; amino, nitro,  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_6$  alkyloxy, carbonyl  $C_1$ - $C_6$  alkyl, phenyl, aryl.

12. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains such compounds of azoles.

13. The multicomponent system of claim 6, characterized in that component c), as NO-, NOH- or H-NR-OH- containing compounds, contains such compounds of condensed heterocyclic compounds which contain a triazolo or tetrazolo unit, such as:

5 [1,2,4]triazolo[4,3-a]pyridine,  
[1,2,4]triazolo[1,5-a]pyridine,  
sub A7 [1,2,4]triazolo[4,3-a]quinoline,  
[1,2,4]triazolo[4,3-b]isoquinoline,  
[1,2,4]triazolo[3,4-a]isoquinoline,  
10 [1,2,4]triazolo[1,5-b]isoquinoline,  
[1,2,4]triazolo[5,1-a]isoquinoline,  
[1,2,3]triazolo[1,5-a]pyridine,  
[1,2,3]triazolo[4,5-b]pyridine,  
[1,2,3]triazolo[4,5-c]pyridine,  
15 [1,2,3]triazolo[1,5-a]quinoline,  
[1,2,3]triazolo[5,1-a]isoquinoline,  
[1,2,4]triazolo[4,3-b]pyridazine,  
[1,2,4]triazolo[1,5-b]pyridazine,  
[1,2,4]triazolo[4,5-d]pyridazine,  
20 [1,2,4]triazolo[4,3-b]quinoline,  
[1,2,4]triazolo[3,4-a]phthalazine,  
[1,2,4]triazolo[4,3-a]pyrimidine,  
[1,2,4]triazolo[4,3-c]pyrimidine,  
[1,2,4]triazolo[1,5-a]pyrimidine,

25 [1,2,4]triazolo[1,5-c]pyrimidine,  
[1,2,4]triazolo[4,3-c]quinazoline,  
[1,2,4]triazolo[1,4-a]quinazoline,  
[1,2,4]triazolo[1,5-c]quinazoline,  
[1,2,4]triazolo[5,1-b]quinazoline,  
30 [1,2,3]triazolo[1,5-a]pyrimidine,  
[1,2,3]triazolo[1,5-c]pyrimidine,  
[1,2,3]triazolo[4,5-d]pyrimidine,  
[1,2,3]triazolo[1,5-a]quinazoline,  
[1,2,3]triazolo[1,5-c]quinazoline,  
35 [1,2,4]triazolo[4,3-a]pyrazine,  
[1,2,4]triazolo[1,5-a]pyrazine,  
[1,2,3]triazolo[4,5-b]pyrazine,  
[1,2,4]triazolo[4,3-a]quinoxaline,  
[1,2,3]triazolo[1,5-a]quinoxaline,  
40 [1,2,4]triazolo[4,3-b][1,2,4]triazine,  
[1,2,4]triazolo[3,4-c][1,2,4]triazine,  
[1,2,4]triazolo[4,3-d][1,2,4]triazine,  
[1,2,4]triazolo[3,4-f][1,2,4]triazine,  
[1,2,4]triazolo[1,5-b][1,2,4]triazine,  
45 [1,2,4]triazolo[5,1-c][1,2,4]triazine,  
[1,2,4]triazolo[1,5-d][1,2,4]triazine,  
[1,2,4]triazolo[4,3-a][1,3,5]triazine,

[1,2,4]triazolo[1,5-a][1,3,5]triazine,

tetrazolo[1,5-a]pyridine,

50 tetrazolo[1,5-b]isoquinoline,

tetrazolo[1,5-a]quinoline,

tetrazolo[5,1-a]isoquinoline,

tetrazolo[1,5-b]pyridazine,

tetrazolo[1,5-b]quinoline,

55 tetrazolo[5,1-a]phthalazine,

tetrazolo[1,5-a]pyrimidine,

tetrazolo[1,5-c]pyrimidine,

tetrazolo[1,5-a]quinazoline,

tetrazolo[1,5-c]quinazoline,

60 tetrazolo[1,5-a]pyrazine,

tetrazolo[1,5-a]quinoxaline,

tetrazolo[1,5-b][1,2,4]triazine,

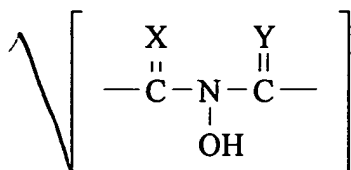
tetrazolo[5,1-c][1,2,4]triazine,

tetrazolo[1,5-d][1,2,4]triazine,

65 tetrazolo[5,1-f][1,2,4]triazine.

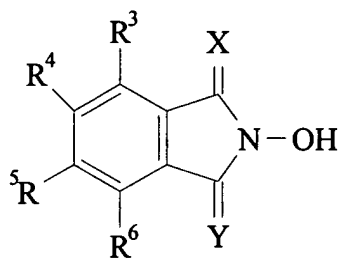
14. The multicomponent system of claim 6, characterized in that as mediators (component c), NO-, NOH- or H-RN-OH-containing compounds are selected from the group of cyclical N-hydroxy compounds having at least one optionally substituted 5- or 6-member ring of the structure given in formula A:

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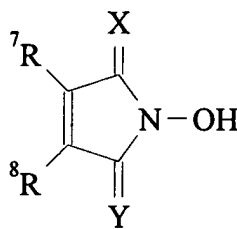


5wA7  
 as well as their salts, ethers or ester, in which X and Y are the same or different and stand for O, S or NR<sup>1</sup>, in which R<sup>1</sup> stands for hydrogen, hydroxyl, formyl, carbamoyl, or sulfono radical, or ester or salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, aryl C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>5</sub> alkoxy, C<sub>1</sub>-C<sub>10</sub> carbonyl, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phospho, phosphono or phosphonooxy radical, or ester or salt of the phosphonooxy radical; in which carbamoyl, sulfamoyl, amino and phenyl radicals may be unsubstituted or substituted once or multiple times with a radical R<sup>2</sup>, and the aryl C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>5</sub> alkoxy, C<sub>1</sub>-C<sub>10</sub> carbonyl, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl radicals may be saturated or unsaturated, branched or unbranched, and substituted once or multiple times with a radical R<sup>2</sup>, and R<sup>2</sup> is the same or different and stands for hydroxyl, formyl, or carboxyl radical, ester or salt of the carboxyl radical, carbamoyl, sulfono ester or salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>1</sub>-C<sub>5</sub> alkoxy radical.

15. The multicomponent system of claim 6 or 14, characterized in that as the mediator (component c), at least one compound of the general formula VI, VII, VIII or IX is used:

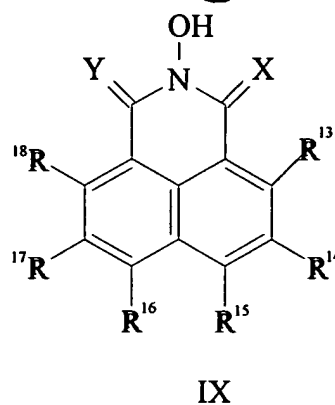
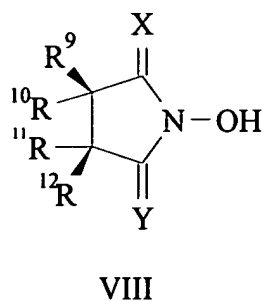


VI



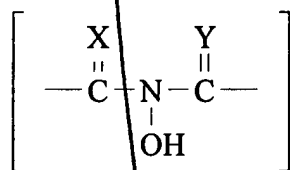
VII

5



in which X, Y have the meanings already given and the radicals  $R^3$  to  $R^{18}$  are the same or different and stand for halogen radical, carboxyl radical, salt or ester of a carboxyl radical, or the meaning given for  $R^1$ ; in which  $R^9$  and  $R^{10}$ , or  $R^{11}$  and  $R^{12}$ , must not at the same time stand for a hydroxyl or amino radical, and optionally two at a time of the substituents  $R^3$  to  $R^6$ ,  $R^7$  to  $R^8$ ,  $R^9$  to  $R^{12}$ ,  $R^{13}$  to  $R^{18}$  can be linked together into a ring -B-, in which -B- has one of the following meanings:

$(-CH=CH)-_n$ , where  $n = 1-3$ ,  $-CH=CH-CH=N-$ , or



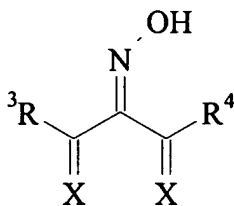
Formula A and in which optionally the radicals  $R^9$  to  $R^{12}$  may also be linked to one another by one or two bridge elements -Q-, in which -Q- may be the same or different and can have the following meanings: -O-, -S-,  $\text{CH}_2$ -,  $-\text{CR}^{19}=\text{CR}^{20}-$ ; in which  $R^{19}$  and  $R^{20}$  are the same or different and have the same meaning as  $R^3$ .

16. The multicomponent system of claim 6, 14, 15, characterized in that as the mediator, at least one substance, selected from the group comprising N- hydroxyphthalimide, optionally substituted N- hydroxyphthalimide derivatives, N-hydroxymaleimide, optionally substituted N-

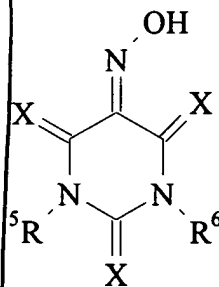
hydroxymaleimide derivatives, N- hydroxynaphthalic acid imide, optionally substituted N-

5 hydroxynaphthalic acid imide derivatives, N- hydroxysuccinimide, optionally substituted N-  
hydroxysuccinimide derivatives, is used.

17. The multicomponent bleaching system of claim 6, characterized in that as the  
mediators (component c), oximes of the general formula X or XI



X



XI

and their salts, ethers or esters are used, in which X is the same or different and stands for O, S or  
NR<sup>1</sup>, in which R<sup>1</sup> stands for hydrogen, hydroxyl, formyl, carbamoyl, or sulfono radical, or ester or  
salt of the sulfono radical, sulfamoyl, nitro, amino, phenyl, aryl C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>5</sub>  
alkoxy, C<sub>1</sub>-C<sub>10</sub> carbonyl, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl, phospho, phosphono or phosphonooxy radical, or  
ester or salt of the phosphonooxy radical, in which carbamoyl, sulfamoyl, amino and phenyl radicals  
may be unsubstituted or substituted once or multiple times with a radical R<sup>2</sup>, and the aryl C<sub>1</sub>-C<sub>5</sub> alkyl,  
C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>5</sub> alkoxy, C<sub>1</sub>-C<sub>10</sub> carbonyl, carbonyl C<sub>1</sub>-C<sub>6</sub> alkyl radicals may be saturated or  
unsaturated, branched or unbranched, and substituted once or multiple times with a radical  
R<sup>2</sup>, and R<sup>2</sup> is the same or different and stands for hydroxyl, formyl, or carboxyl radical, ester or salt  
of the carboxy radical, carbamoyl, sulfono ester or salt of the sulfono radical, sulfamoyl, nitro,  
amino, phenyl, C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>1</sub>-C<sub>5</sub> alkoxy radical, and the radicals R<sup>3</sup> and R<sup>4</sup> are the same or different

and stand for halogen, carboxyl radical, ester or salt of the carboxyl radical, or have the meanings given for  $R^1$ , or are linked together into a ring  $(-CR^7R^8)_n$ , where  $n$  is equal to 2, 3 or 4, and

$R^5$  and  $R^6$  have the meanings given for  $R_1$ , and  $R^7$  and  $R^8$  are the same or different and stand for

20 halogen, carboxyl radical, ester or salt of the carboxyl radical, or have the meanings given for  $R^1$ .

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18. The multicomponent bleaching system of one of claims 6 or 17, characterized in that as the mediator, compounds of the general formula X, in which X stands for O or S, and the other radicals have the above-given meanings, are used.

19. The multicomponent system of one of claims 6, 17 or 18, characterized in that as the mediator, isonitroso derivatives of cyclical ureides of the general formula XI are used.

20. The multicomponent bleaching system of one of claims 6, 17 to 19, characterized in that as the mediator, alloxane-5-oxime hydrate (violuric acid) or its esters or salts are used.

21. The multicomponent system of claim 1 or 2, characterized in that as the oxidizing agent, it contains for instance air, oxygen, ozone,  $H_2O_2$ , organic peroxides, peracids such as peracetic acid, performic acid, persulfuric acid, pernitric acid, metachloroperoxybenzoic acid, perchloric acid, perborates, peracetates, persulfates, peroxides, or oxygen species and their free radicals, such as OH, 5 OOH, superoxide ( $O_2^-$ ) radicals, siglet oxygen, ozonide, dioxygenyl cation ( $O_2^+$ ), dioxiranes, dioxitanes, or Fremy radicals.

22. The multicomponent system of claim 1 or 2, characterized in that as component d), it contains aliphatic ethers and/or aryl-substituted alcohols, such as:

2,3- dimethoxybenzyl alcohol, 3,4-dimethoxybenzyl alcohol, 2,4- dimethoxybenzyl alcohol, 2,6-dimethoxybenzyl alcohol, homovanillyl alcohol, ethylene glycol monophenyl ether, 2- 5 hydroxybenzyl alcohol, 4-hydroxybenzyl alcohol, 4-hydroxy-3- methoxybenzyl alcohol, 2-

methoxybenzyl alcohol, 2,5- dimethoxybenzyl alcohol, 2,4-dimethoxybenzylamine, 2,4-dimethoxybenzylamine hydrochloride, veratryl alcohol, and coniferyl alcohol.

23. The multicomponent system of claim 1 or 2, characterized in that as component (d), it contains olefins (alkenes), such as:

2-allylphenol, 2-allyl-6-methylphenol, allylbenzene, 3,4-dimethoxypropenylbenzene, p-methoxystyrene, 1-allylimidazol, 1-vinylimidazol, styrene, stilbene, allylphenyl ether, cinnamic acid benzyl ester, cinnamic acid methyl ester, 2,4,6-triallyloxy-1,3,5-triazine, 1,2,4- trivinylcyclohexane, 4-allyl-1,2-dimethoxybenzene, 4-tert-butylbenzoic acid vinyl ester, squalene, benzoin allyl ether, cyclohexene, dihydropyran, and N-benzylcinnamic acid anilide.

24. The multicomponent system of claim 1 or 2, characterized in that as component (d), it contains phenol ethers, such as:

2,3-dimethoxybenzyl alcohol, 3,4- dimethoxybenzyl alcohol, 2,4-dimethoxybenzyl alcohol, 2,6- dimethoxybenzyl alcohol, homovanillyl alcohol, 4- hydroxybenzyl alcohol, 4-hydroxy-3-methoxybenzyl alcohol, 2- methoxybenzyl alcohol, 2,5-dimethoxybenzyl alcohol, 2,4-dimethoxybenzylamine, 2,4-dimethoxybenzylamine hydrochloride, veratryl alcohol, coniferyl alcohol, veratrol, and anisol.

25. The multicomponent system of of claim 1 or 2, characterized in that as component (d), it contains carbonyl compounds, such as:

4-aminobenzophenone, 4-acetylbiphenyl, benzophenone, benzil, benzophenone hydrazone, 3,4- dimethoxybenzaldehyde, 3,4-dimethoxybenzoic acid, 3,4- dimethoxybenzophenone, 4-dimethylaminobenzaldehyde, 4- acetylbiphenylhydrazone, benzophenone-4-carboxylic acid, benzoyl acetone, bis-(4,4-dimethylamino)benzophenone, benzoin, benzoin oxime,

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10 N-benzoyl-N-phenylhydroxylamine, 2-amino-5-chlorobenzophenone, 3-hydroxy-4-methoxybenzaldehyde, 4-methoxybenzaldehyde, anthraquinone-2-sulfonic acid, 4-methylaminobenzaldehyde, benzaldehyde, benzophenone-2-carboxylic acid, 3,3',4,4'-benzophenonetetracarboxylic acid dianhydride, (S)-(-)-2-(N-benzylpropyl)aminobenzo-henone, benzylphenyl acetic acid anilide, N-benzylbenzanilide, 4,4'-bis-(dimethylamino)-thiobenzophenone, 4,4-bis(diacetylamino)benzophenone, 2-chlorobenzophenone, 4,4'-dihydroxybenzophenone, 2,4-dihydroxybenzophenone, 3,5-dimethoxy-4-hydroxybenzaldehyde hydrazine, 4-hydroxybenzophenone, 4-methoxybenzophenone, 3,4-dihydroxybenzophenone, p-anisic acid, p-anisic aldehyde, 3,4-dihydroxybenzaldehyde, 3,4-dihydroxybenzoic acid, 3,5-dimethoxy-4-hydroxybenzaldehyde, 3,5-dimethoxy-4-hydroxybenzoic acid, 4-hydroxybenzaldehyde, salicylaldehyde, vanillin, and vanillic acid.

26. The multicomponent system of claims 1 or 2, characterized in that as component (e), it contains benzotriazole as a free amine, in the case of the in situ generation or reaction mediation in cascade form for hydroxybenzotriazol.

27. The multicomponent system of claims 1 and 2, characterized in that as oxidoreductases, it contains enzymes originating in white rotting fungus [Phanerochaete chrysosporium], Trametes versicolor other fungi, bacteria, animals or plants, which enzymes are obtained from natural organisms or organisms that have been altered by gene technology.

28. The multicomponent system of claims 1 and 2, characterized in that as catalysts it contains modified enzymes, enzyme components, prosthetic groups or mimic substances, preferably heme groups or compounds containing heme groups.

29. The multicomponent system of claim 21, characterized in that as the oxidizing agents it contains oxygen, which is generated in situ by means of  $H_2O_2$ + catalase or other systems or  $H_2O_2$  from GOD+ glucose or other systems.

30. The multicomponent system of claims 1 to 29, characterized in that it contains cation-forming metal salts.

31. The multicomponent system of claim 30, characterized in that the cations are  $Fe^{2+}$ ,  $Fe^{3+}$ ,  $Mn^{2+}$ ,  $Mn^{3+}$ ,  $Mn^{4+}$ ,  $Cu^+$ ,  $Cu^{2+}$ ,  $Ti^{3+}$ ,  $Ce^{4+}$ ,  $Mg^{2+}$ , and  $Al^{3+}$ .

32. The multicomponent system of claims 1 and 31, characterized in that in addition it contains polysaccharides and/or proteins.

33. The multicomponent system of claims 1 to 32, characterized in that as polysaccharides it contains glucanes, mannanes, dextrans, levans, pectins, alginates, or vegetable rubbers, and/or its own polysaccharides formed by the fungi or produced in a mixed culture with yeasts, and as proteins, it contains gelatin or albumin.

34. The multicomponent system of claims 1 to 33, characterized in that as additives it contains simple sugar, oligomer sugar, amino acids, polyethylene glycols, polyethylene oxides, polyethylene imines and polydimethyl siloxanes.

35. A detergent containing the multicomponent system of one of claims 1 to 34.

36. The use of the multicomponent system of one of claims 1 to 35 as an additive to detergent formulations with detergent substances or detergent additives known per se.

37. The use of the multicomponent system of one of claims 1 to 36, characterized in that it is used at a pH value between 2 and 12, preferably between 4 and 10, and at a temperature between  $10^{\circ}C$  and  $60^{\circ}C$ , and preferably between  $20^{\circ}C$  and  $40^{\circ}C$ .

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